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THE WIDENING DISTRIBUTION OF THE RED AVADAVAT *Amandava amandava*, WITH AVICULTURAL NOTES

by Ian Hinze

Other names

Include: Avadavat, Tiger Finch, Strawberry Finch and Red Munia.

Description

Length 10cm (4in). The male *A. a. amandava* in breeding plumage usually has the forehead, face, throat, sides of the neck, breast, flanks, rump and upper tail-coverts a deep scarlet red, but this can vary from coppery red to crimson. There is a black stripe from the gape to the eye and a short, narrow white stripe below the eye. The sides of the lower neck and breast, flanks, rump and upper tail-coverts are spotted with white, each feather possessing a single white spot near the tip. The top of the head and the nape are usually a slightly less bright shade of red and have the dark brown basal part of the feathers showing. The mantle and back are dull brown with a bronzy red or dull scarlet fringe to the feathers. The general appearance of the upperparts may vary from mainly brown to mainly red. The wings and tail are blackish brown with white terminal spots on the coverts, inner secondaries and outer tail feathers. The lower belly and under tail-coverts are brownish black, with some of the feathers having a reddish tip. The under wing-coverts are buff. When very new, the red feathers have a distinct chestnut or coppery tone, but later become pure red. The irides are reddish orange to red. The bill is red with part or all of the ridge of the culmen dusky or blackish. The legs and feet are fleshy brown.

The female is dull earth brown to greyish brown on the upperparts, except for the wings, rump and upper tail-coverts, which are like those of the breeding male, but with the red parts usually slightly less bright. The facial markings are also like those of the breeding male, except that the stripe below the eye is creamy (rather than white) and less prominent. The

sides of the face, neck and upper breast are light brownish grey. The throat and most of the underparts are whitish or pale buff, with the latter colour suffusing the grey of the breast and shading to yellowish buff or even buffish orange on the belly.

The male resembles the female when he is in his eclipse or non-breeding plumage. The subsequent moult back into breeding plumage is thorough and involves the wing and tail quills. Based on observations of captive birds it is possible that many males in the wild begin moulting back into the red plumage before the non-breeding plumage is complete.

The juvenile is dull greyish brown, shading to buffish white below, with two conspicuous pale wing bars formed by the buffish tips to the median and greater wing-coverts. The irides and bill are at first a dull colour. Young males moult from juvenile into non-breeding plumage, often with some dusky and buffish barring on the flanks. The first moult is a complete moult. The nestling is dark skinned with brownish down and has multiple mouth markings.

Amandava a. flavidiventris is a little smaller and males in breeding plumage have the red on the breast slightly less bright and shading through pinkish orange to golden or yellowish buff, more or less suffused with orange on the belly. The white spotting extends across the front of the breast and lower neck, with some feathers having whitish shaft streaks. The female has the breast more yellowish drab than grey and the belly is a deeper buff and usually strongly tinged with orange.

Amandava a. punicea is similar in size to *A. a. flavidiventris*. In breeding plumage the male is usually a brighter red than *A. a. amandava* and has smaller white spots. It lacks or has only a slight black mark from the gape to the eye.

The Avadavat's generic name, *Amandava*, is a corruption of Ahmadabad, the name of the town in Gujarat, India, from where the first examples were brought.

Field guide

The male in breeding plumage is a tiny, bright or coppery red bird, with conspicuous white spots and a red bill, which distinguish it from all other sympatric small finch-like birds. The female and male in non-breeding have dull brownish upperparts, with darker wings and lightly spotted wing bars, light brownish grey underparts with a whitish or buffish throat and belly, and a red rump and upper tail-coverts.

Voice

There is some geographical and possibly individual variation in the song, which is very sweet-sounding and varied, though shortish, and on a descending scale (Goodwin, 1982). The female also sings but less often and

her song is shorter; it also lacks the clear loud notes of the male (Trollope, 1983). Clement et al. (1993) stated that the song is a feeble or weak but high-pitched warble, with softer and sweeter twittering notes, delivered by the male usually from the top of a reed or a similar prominent perch. Trollope (1993) wrote that the song is a pleasant rather melancholy series of fluting notes, ending in a clear whistle, which can be heard from some distance. Roberts (in Cramp & Perrins, 1994) recorded a male singing from the top of a *Typha* reed in Pakistan. It had a rather weak, soft song, comprising rather spaced-out groups of very thin, high-pitched “tsi” calls interspersed with much louder, drawn-out whistles, some rising in pitch at the end, some falling slightly; then another series of “tsi” calls, followed by a rather more rapid pretty fluting phase on a descending scale; the whole sequence amounting to “*tsi-tsi-tsi twe-e-e-h tsi-tsi-twe-e-e-h tw-o-o-h tsi-tsi twe-twe-te-dee-slu*”, repeated four to five times. There is a shrill “*chirp*” call-note (Lekagul & Cronin, 1974); the call is usually a thin “*teei*” or “*tsi*”, but there is also a variety of high-pitched chirps or squeaks, or rather shrill but sweet-sounding calls, uttered in several situations, such as when the bird is perched or in flight. These calls are usually monosyllabic but several may be repeated at very short intervals. A rather loud, long drawn version of its usual call is given when attacking or when threatening a rival, but not when repulsing a lower-ranked individual. A still louder version is given by parents when they perceive their fledged young to be in danger. A rapidly repeated ‘run-together’ series of notes, in a very excited tone and on a descending scale is often given, normally while the bird is in a typical rather upright singing posture, with the belly feathers somewhat erect and those of the crown sometimes erect and sometimes appressed. Such a series of shrill notes appears to function as an alternative song. A foraging male’s contact call, when he was separated from his mate, consisted of a short “*psee, pswee*” in a rapid staccato repetition. The nest call is a series of soft, rapidly repeated notes, “*tee-tee-tee*” or “*teh-teh-teh-teh...*” (Clement et al. 1993; Cramp & Perrins, 1994; Goodwin, 1982). Cramp and Perrins (1994) provided an audiospectrogram of the calls.

Status and distribution

Common or locally common. Global population trends have not been quantified, but the species is not believed to approach the thresholds for the population criterion of the IUCN Red List (i.e. declining more than 30% in 10 years or three generations). For these reasons, the species is evaluated as of Least Concern.

Amandava a. amandava: central and western Pakistan to southern Kashmir and throughout India (except the east and south-west coastal areas)

north to the foothills of the Himalayas, southern Nepal east to Assam and Bangladesh.

Amandava a. flaviventris: south-west China (southern Yunnan and possibly also east to Kweichow) south to Myanmar (Burma) and the Lesser Sunda Islands (Lombok, Flores, Sumba, Roti and Timor).

Amandava a. punicea: south-east Thailand, southern Kampuchea, extreme south-east China (south-east Kwangtung and Hainan), Vietnam, Java and Bali.

Introduced distribution

Spain, Portugal, Italy, southern Israel (Eilat?), Egypt, Saudi Arabia (Riyadh?), South Africa, Réunion, Mauritius, Hong Kong, Malaysia (Singapore), Sumatra, Japan (Honshu, Kyushu and Shikoku), Philippines (Luzon and Manila), Fiji (Viti Levu), Hawaiian Islands (Oahu), Guadaloupe, Martinique, Puerto Rico and the Dominican Republic. It has also been introduced unsuccessfully into the UK, France, Germany, the Comoros, Sri Lanka, South Andaman Island and Tahiti (Clement et al. 1993; Costa et al. 1997; Cramp & Perrins, 1994; Raffaele et al. 1998; Lever, 1987).

In the UK in the late 1940s, about 30 individuals believed to have escaped from a consignment of imported birds at Heathrow Airport (London), appeared later at nearby Perry Oaks Sewage Farm. It was a wonderful old-fashioned sewage farm, with stinking, bird-rich, morasses of activated sludge in various stages of drying out, jungles of long grass, docks, thistles and other vegetation. The Avadavats thrived throughout the summer and evidently managed to breed, as juveniles were later seen on the wing. However, by late November, after competing for the decreasing seed supplies with the autumn influx of Reed Buntings *Emberiza schoeniclus* and Tree Sparrows *Passer montanus* (which, like so many other birds, were then much commoner in southern England than they are now), as well as having to withstand the colder weather and the shorter hours of daylight, only one wretched bird, alone and desperately calling for company, remained. From the mid-1950s-1960s other escapees, often in the company of Asiatic munias and African waxbills, could be seen flying about the sewage farm and marshy areas outside the perimeter of the airport. However, not a solitary individual is known to have survived an English winter (Goodwin, 1993; Trollope, 1983).

In France (date of introduction unknown) the species survived for several years in the wild near Orléans before eventually dying out in 1974 (Lever, 1987). It has also bred in Germany, feeding mainly on the half-ripe seeds of the grasses *Panicum crus-galli* and *Phleum arenarium* but, as in England, probably succumbed in the winter (Goodwin, 1982). In Spain, the Red Avadavat was first noticed in the wild in 1974, in Arganda, about

15km (9 miles) south-east of Madrid, where the species was still present and breeding 10 years later. The Red Avadavat was first captured in the wild in 1978, in the Extremadura region, south-west of Madrid. It is now known to be breeding in large numbers in marshland along the rivers of the Guadiana basin from a point 10km (approx. 6 miles) south of Badajoz (close to the border with Portugal) to beyond Villanueva de la Serena, a distance of some 110km (approx. 68 miles). Cramp and Perrins (1994) reported that in the Guadiana basin, in Extremadura, it occupies wetlands dominated by *Typha* reed mace and *Phragmites* reeds, as well as meadows and irrigated crops such as lucerne, maize and tomatoes. In Granada it is found in sugar cane plantations and reed beds. It breeds from August-November, before the onset of the autumnal rains. In January 1984 the population was estimated to number 4,000 and, choosing swampy ground to nest and being primarily granivorous, it did not appear to be competing with any native species. It is continuing to increase and expand its range. In Portugal it appears to have become established in the Eastern Alentejo, along the Guadiana River in the Elvas-Campo Major region and at Barroco Marsh. It has also been recorded at Barrinha de Esmoriz, the Sado Valley, Baixo Alentejo and in the Algarve, where an individual was ringed (banded) in 1978 and where it is now recorded regularly in the vicinity of Faro, Silves and Portimão. In 1994 it was estimated that the maximum number at Barroco Marsh was 10-15 individuals and, in March 1995, in the Elvas area, where the species is common, there were at least 100 individuals. At Barrinha de Esmoriz it is currently seen only in small numbers and only in summer. It frequently associates with the Common Waxbill *Estrilda astrild*, with the latter predominating (Costa et al. 1997).

In Treviso, Italy, in 1987, escaped or deliberately released cage birds and/or their descendents were reported by Mezzavilla and Battistella (in Cramp & Perrins, 1994) to be occupying reed beds and stands of rush *Juncus* and sedge *Carex*. They often favour clay pits, especially those filled with water. Three hundred birds were recorded including, in 1983-1985, 80-90 breeding pairs along the River Sile. Survival through cold winters presents severe problems but the species appears able to recover from these. It has been observed on the grasses *Phleum*, *Lolium*, *Elymus* and also on reeds *Phragmites* and reed mace *Typha*.

In Egypt, *A. a. amandava* was mentioned first by Antonori, who shot several near Alexandria in 1861, these presumably having escaped or been deliberately released from captivity. On May 15th 1903 and on January 13th 1905 Walter Innes collected specimens near Cairo. He also mentioned that Avadavats were often absent from Giza Zoological Gardens for several months but returned in large flocks late in the year to breed. They were

also found later inland at El Faîyum in February 1924. From at least 1914-1924 the species was apparently common and breeding at several localities - such as near El Gîza, Inhâs el Raml, Bilbeis and around the Delta Barrage - within a 30km (approx. 18 miles) radius of Cairo. However, for some unexplained reason, it disappeared thereafter, although some were noted in 1928 at Luxor. January-February 1974 the species reappeared and was reported 4km (approx. 2½ miles) south-west of Ismâ' iliya towards El Wasifiya and Abu Suweir on the west bank of the Suez Canal, with flocks of five to 10 individuals frequently being observed. Since the late-1970s Avadavats have been noted with increasing frequency in the Nile Delta, the species clearly being widely distributed in the region. In 1978 several were noted at Asher Talaaf, 30km (approx. 18 miles) south-west of Alexandria. Near Suez it is presently well established in reed beds, where up to 100 have been observed regularly since 1980. On April 10th 1982 a female was spotted at this locality carrying nesting material. On February 4th 1981, 25 birds were recorded at El Saff, six were spotted on September 27th 1985 at a few localities between Mazghuna and El Wasta and a lone bird was seen the following day south of Beni Suef. Since autumn 1983 avadavats have been noted at Lake Qarub, where they were found breeding in November 1983. Up to 30 birds, including immature birds, were observed between May-July 1986 in reed beds near Alexandria. The species is common along the river just south of Cairo. In April 1997, 60 individuals were counted at Crocodile Island, Luxor and January 12th-January 20th 2001, small flocks were seen between Kom Ombo (50km (approx. 31 miles) north of Aswan) and Nag Hammadi. In May 2002 at least three colonies were found in reed beds between Luxor and Qena, where the species was presumed to be breeding (Fry & Keith, 2004; Grieve, 1997; Goodman & Meininger, 1989; El Din, 2001; Lever, 1987).

Clement et al. (1993) listed it as having been recorded at Eilat in southern Israel, but I can find no further information on this. Paz (1987) did not include it in his work on the birds of Israel, so it is likely to have been after 1987. Clement et al. (1993) also listed the species as having been recorded in Riyadh, Saudi Arabia.

In South Africa it has been reported as breeding in old weaver and bishop nests at Rosherville, Gauteng (Hockey, Dean & Ryan, 2005). However, André Marx (pers. comm.), who has been involved in collating regional rarity records for that part of South Africa, said, the species is unknown in Gauteng and he has not heard it mentioned in the past 20 years.

In the nineteenth century, the Red Avadavat was imported onto the Comoros Islands, off the coast of East Africa, where specimens were collected on Mayotte in 1884 and on Mohéli in 1904. It has since died out

on these islands. It is believed Red Avadavats were taken to Mauritius as aviary birds early in the eighteenth century, possibly by the first French settlers in 1715 and survived there until they were wiped out by a cyclone in 1892, or about 1896. They were also imported onto the island of Réunion (possibly by the early colonists in 1664 or later from Mauritius) where, in 1987, they were still established but rare (Lever, 1987).

The nominate subspecies *A. a. amandava*, is known to have been exported from Bengal, India, to Sri Lanka (Ceylon), prior to 1874 and escapees were established in Colombo but have subsequently disappeared (Lever, 1987). Colonel R. C. Tyler is attributed with having released 25 Red Avadavats at Port Blair on South Andaman Island at the time of the establishment of a penal colony there in 1858, but they all died out (Lever, 1987).

Clement et al. (1993) listed the Red Avadavat as having been introduced to Singapore. In 1880 it was said to have been abundant on Singapore Island and was still common there up until 1924. Thereafter it disappeared but large numbers were imported after the Second World War. Those seen there in the wild today are probably escaped or released cage birds. *Amandava a. punicea* is believed to have been the subspecies that was introduced. This subspecies is also the one believed to have been introduced to Sumatra prior to 1947, but natural colonisation from Java is also a distinct possibility (Lever, 1987).

Strange (2002) listed the Red Avadavat as having been introduced in Kota Kinabalu, Sabah, but gave no further details. In the Philippines, Red Avadavats are believed to have escaped from captivity and become established in the environs of Manila, on the island of Luzon, prior to 1946, but Clement et al. (1993) reported that the species has not been seen in the wild in recent years.

The precise status of the Red Avadavat in Hong Kong has yet to be determined. It has been observed at Mai Po, with flocks of over 30 birds found regularly on the marshes at Long Valley, where they probably bred and may also have bred occasionally elsewhere. The birds may have escaped or been deliberately released or could be natural vagrants of the subspecies *A. a. flavidiventris* from the mainland (Lever, 1987).

In Japan this species was imported to the island of Honshu as a cage bird prior to 1940 and has since become established in the Gihu, Aiti, Tokyo, Saitawa and Tiba prefectures. In 1974 the Japanese Ornithological Society reported that although there seemed to have been few recent records, the species continued to breed in Honshu and, up until 1981, probably also on Kyushu and Shikoku. Up until 1985 the most notable sites for the species were at Oikoen and Tamagawa near Tokyo, and from Kanto southwards it had become quite common in its preferred habitat of tall grasses, marsh

reeds, riverbanks and rough land, with flocks of up to 200 being reported (Lever, 1987).

In Fiji, the species became established in the suburbs of Suva on the south coast of Viti Levu, having it is believed been imported by the Hon. Mr Remenschneider sometime before 1906. In reports from 1966-1982, it was listed as common in agricultural, urban, suburban and grassland habitats on the main island and of being a bird of open country, agricultural land and gardens, but also found at the forest edge and in substantial clearings, on Viti Levu and Vanua Levu. On these islands it is common, though usually occurring only in small groups but, on occasion, and especially on the way to communal roosts, sometimes forming large flocks. The subspecies is believed to be *A. a. flavidiventris*. It has been recorded raiding seedling rice, however, a contrary report written later stated that although the Red Avadavat is especially partial to Jungle Rice *Echinochloa colenum*, it rarely feeds on cultivated varieties.

In 1938, Eastham Guild released the species on Tahiti, where it nested successfully shortly thereafter, but has since died out (Lever, 1987).

The Red Avadavat is believed to have been imported as a cage bird to the island of Oahu in the Hawaiian archipelago in the first few years of the 1900s and to have become established for many years in and around Pearl Harbour, where it was once reported as being nowhere particularly common. The Hui Manu (Bird Society) is said to have brought more in between 1930-1968 and, in 1963, the population was estimated to be approximately 100. In 1975 the Hawaiian Audubon Society reported that some were established in grassland near sugar cane plantations on the Waipo Peninsula in Pearl Harbour where, however, they were much less abundant in the West Loch area than the more recently imported Black-headed Mannikin *Lonchura malacca*. In 1976 the Red Avadavat was listed as local and uncommon in agricultural and pastureland (away from the peninsula) on Oahu. In 1977 its presence as a long-established and breeding resident was confirmed and, by 1981, the species was said to be increasing its range on Oahu (Lever, 1987).

The British or French probably introduced it onto the West Indian island of Guadeloupe as a cage bird in the eighteenth century. It was first seen in the wild, in recent times, about 1965, in the vicinity of Pointe-à-Pitre on the south-west coast of Grande-Terre. Later it appeared in the Baie de Forte-de-France on the west coast of Martinique, where it became established from Le Lamentin in the north southwards to Rivière-Salée and the Usine Petit-Bourg. Up until 1987 the Red Avadavat was and, most likely still is, the most widespread exotic bird on Guadeloupe and has probably colonised the whole of Grande-Terre and the west-north-west of Basse-Terre. It favours low-lying damp areas, the edges of ponds, roadside verges and the borders of

fields. Generally it occurs in pairs or small family groups, though sometimes it is seen in flocks of up to 50 individuals. It feeds largely on *Panicum maximum*, which was introduced many years ago from West Africa and has taken over disused sugar cane fields – wherein the Red Avadavat is believed to nest - and roadside verges. Along with other introduced estrildids, the Red Avadavat is thought to compete to the disadvantage of the indigenous Black-faced Grassquit *Tiaris bicolor* (Lever, 1987). According to Raffaele et al.(1998) it was recorded on Martinique for the first time in 1970 and is now common on both Guadeloupe and Martinique. On Puerto Rico the species is believed to have been introduced in the late 1960s and is now reported to be locally common in the lowlands and, in the Dominican Republic, a flock was reported in 1997 (Raffaele et al. 1998).

Habitat, general behaviour and feeding

It particularly favours riparian or marshy areas of tall grass, reed beds, bushes or other rank growth, but also frequents sugar cane fields, grassy clearings in jungle, open woodland, cultivated areas and similar places, as well as gardens (Goodwin, 1982). Generally a lowland species, it also occurs up to 1,500m (approx. 4,920ft) on the islands of Java and Bali and up to 2,400m (approx. 7,875ft) on the Lesser Sunda Islands (Clement et al. 1993). It is usually observed in pairs or small flocks of up to 30, but at certain times of the year flocks can exceed 100 individuals, sometimes in the company of munias, sparrows or buntings. It roosts communally in reed beds and sugar cane. It is fast and agile in flight and when disturbed it often rises quickly at a steep angle and flies rather high. It feeds largely on grass seeds, primarily picking them off the ground or plucking them from low growing or prostrate plants, but it also takes seeds from tall stems. Insects, too, are most likely taken (Clement et al. 1993; Goodwin, 1982).

Courtship display

In the courtship display, which may be performed by either sex, the bird holds a piece of grass or a feather by the firmest end of its stem or shaft and, with its body fluffed out, bows slowly, sings, and bows again. The bows are usually first to one side of its body and then to the other. The displaying bird may be beside, in front of or at an angle to its mate and hop around it between bows. Copulation, which does not normally follow the display, may, but not always, be initiated by the male pecking at the female's nape and/or her soliciting with her tail quivering. The male also has a display, which is not unlike that of the begging of the fledged young, in which he crouches and raises and flutters one or both wings. Sometimes his tail is pressed to the ground, but at other times it may be twisted towards the female. This display may be accompanied by a soft twittering which is similar or identical to the nest call or he may sing during or immediately afterwards, or even

at intervals between his crouching and wing raising. This display may be directed towards females to whom he is not paired or may be performed by a paired male, and may be followed by a brief attack on them or some other bird. However, at least one observer is convinced this display is a specific pair formation display (Goodwin, 1982).

Nesting

The nest, which usually starts off as a flattish platform of grass stems and/or blades of grass, is roundish and strongly built and, as well as stems and blades of grass, is made using flowering or seeding grass heads and sometimes other plant material, and is lined with vegetable down, fine grasses, flower heads of grasses and/or feathers. There is usually a side entrance or a short tubular entrance. Both sexes construct the nest, though usually only the male brings the outer materials, and both collect feathers for the lining. The nest is well-concealed and normally constructed near the ground, such as in or at the base of a bush or a thick clump of grass, or may be built on the ground itself. A captive male belonging to I. and M. Charnock (1988) always carried a white feather or some other material when returning to the nest and this was then used to cover the entrance hole.

A clutch of four to six eggs are laid, which both sexes take turns to incubate by day, with the female alone incubating them at night. The incubation period is 11-12 days and the young fledge approximately 20-21 days later. Both parents feed the young after they have fledged (Goodwin, 1982; Trollope, 1983).

Aviculture

Since the European import ban greater efforts have been made to breed this species regularly here in the UK. Once a frequently imported species, it was first bred in the UK by the Reverend Charles Druce Farrar, way back in 1895. If its husbandry requirements are not met it is prone to melanism and its normally bright red plumage may turn almost black, yellowish brown, dull orange or at best a fiery orange. Correct feeding alone will not halt the change in coloration, it also requires a high temperature and access to sunshine. Czechowsky (in Goodwin, 1982) found that a captive male repeatedly moulted into shining red plumage when it was kept at a temperature of about 40°C (104°F). When kept at 30°C (86°F) its new plumage was yellowish. These temperatures, however, are way above what the birds require for good health and breeding. My own birds were kept and bred successfully at 15°C-22°C (60°F-70°F) and, although the males' coloration never matched the regal attire of their wild counterparts, they nevertheless remained extremely attractive. It is interesting to note that Robin Restall (1975) described how a male *A. a. punicea* grew progressively darker and duller with each passing

year until, quite inexplicably, it moulted out into a brilliant nuptial plumage which was equal to that of any freshly-caught specimen.

The Red Avadavat is an excellent avicultural subject, whose husbandry requirements are virtually identical to those of the Golden-breasted Waxbill *Sporaeginthus subflavus* (formerly *A. subflava*). It is an excellent bird for beginners, who have first gained experience with the Golden-breasted Waxbill and who strictly adhere to its husbandry requirements. The Red Avadavat is a bird that will grace any seed-eater collection and has, I believe, much potential for domestication. However, unfortunately, it is yet another species that in the main, once bred, tends to be passed over for more challenging species. Pope (in Restall, 1975) bred it in a cage to at least the tenth generation, as an exercise to prove that it could be domesticated by a seriously interested aviculturist. Sadly, though, nobody was. No doubt because, at the time, it continued to be imported in fairly large numbers and sold at ridiculously cheap prices.

Although wild-caught, imported birds, were at breeding time best provided with a varied diet which included livefood, as well as a variety of ripe and unripe seeds, once established the Red Avadavat can be bred without the need for livefood to rear the young. Here in the UK, David Jones and Kevin Bell (pers. comm.) have had great success offering their birds a British finch seed mixture, blended with white and yellow millets, and the addition of millet on the spray and a commercial eggfood. Jones also provides perilla, whereas Bell augments the diet of his birds with sprouted seeds from a basic seed mixture and gives them groundsel and chickweed.

Breeding birds are best kept alone in pairs. A regular check must be kept on the length of their claws, which tend to grow rather quickly and can become entangled in the nest or get caught in the aviary mesh, etc.

Captive birds are known to mimic the songs of other birds, particularly other waxbills.

References

- Charnock, I. and M. 1988. Tiger Finch. *Newsletter of the FBBA* Issue 88/1:484-486.
- Clement, P., Harris, A. and Davis, J. 1993. *Finches and Sparrows*. Christopher Helm, London.
- Costa, H., Elias, G. L. and Farinha, J. 1997. Exotic birds in Portugal. *British Birds* Vol.90,12:562-568.
- Cramp, S. and Perrins, C. M. 1994. *Handbook of the Birds of Europe the Middle East and North Africa*. Vol.III. Oxford University Press, Oxford.
- El Din, M. B. and S. B. 2001. In: Recent Reports, *Bull. ABC* 8/2:149.
- El Din, M. B. and S. B. 2002. In: Recent Reports, *Bull. ABC* 9/1:67.
- Goodman, S. M. and Meininger, P. L. (eds.) 1989. *Birds of Egypt*. Oxford University Press, Oxford.
- Goodwin, D. 1982. *Estrildid finches of the world*. British Museum (Natural History), London.

- Goodwin, D. 1993. Red Avadavat. *The Estrildian* 1,2:4-10. Estrildian Forum.
- Grieve, A. 1997. In: Recent Reports, *Bull. ABC* 5,1:71.
- Hockey, P. A. R., Dean W. R. J. and Ryan, P.G. (eds.) 2005. *Roberts - Birds of Southern Africa*, Seventh edition. Trustees of the John Voelcker Bird Book Fund, Cape Town.
- Lekagul, B. and Cronin, E. W. 1974. *Bird guide of Thailand*. Kuruspha, Bangkok, Thailand.
- Lever, C. 1987. *Naturalized birds of the world*. Longman, S. & T., Essex.
- Paz, U. 1987. *Birds of Israel*. Christopher Helm, London.
- Raffaele, H., Wiley, J., Garrido, O., Keith, A. and Raffaele, J. 1998. *A Guide to the Birds of the West Indies*. Princeton University Press.
- Restall, R. 1975. *Finches and other seed-eating birds*. Faber, London.
- Strange, M. 2002. *A Photographic Guide to the Birds of Southeast Asia*. Christopher Helm, London.
- Trollope, J. 1983. *The care and breeding of seed-eating birds*. Blandford, London.

Sadly, Ian, whose special interest was the Estrildidae species (Waxbills and their allies) and who had spent several years writing a book on these species, which he hoped would be published in 2009, died on December 20th 2008, just a few days after the above article had been prepared for inclusion in this issue. An obituary appears on p.188.

* * *

ON THEIR WAY BACK

Seven Socorro Doves *Zenaida graysoni* bred at Paignton Zoo Enviromental Park and five bred at Edinburgh Zoo, as part of a European zoos captive-breeding programme, were flown from the UK to Los Angeles on October 17th and from there were transported to the US Department of Agriculture's quarantine station at San Diego, where they were isolated for the required 30 days before being transported to Albuquerque Zoo in New Mexico. They will later be taken to Socorro Island, where the Mexican Navy and local conservationists have built a breeding station. It is hoped that their offspring will be the first Socorro Doves to fly free on their native island - 600 miles (approx. 965km) off the Pacific coast of Mexico - since the dove was last sighted in the wild in 1972 (it was declared extinct in the wild in the early 1980s).

* * *

WANTED

Dick Jaquest - Tel:01273 584737/E-mail:d-jaquest@toucansurf.com
- is trying to locate a female Lilac-breasted Roller *Coracias caudatus*. Can you help?

THE BLUE-CROWNED LAUGHINGTHRUSH

Dryonastes courtoisi:

RESULTS OF A 2007 HUSBANDRY QUESTIONNAIRE

by Ian Edmans

The principle aim of this study was to determine which captive husbandry practises promote the best breeding results. Two investigations were conducted, one into enclosure design and the other into breeding success. Both use data obtained from a husbandry questionnaire sent out in 2007.

Enclosure design

Method

All 17 European institutes that housed the Blue-crowned Laughingthrush were sent a questionnaire in February 2007. We asked that a questionnaire be completed for each enclosure housing this species. Each completed questionnaire was to contain the breeding data for one year. Further copies of the questionnaire were available for previous years, however, each institution was to complete only one questionnaire for each enclosure. Sixteen institutions responded and returned a total of 19 completed questionnaires, therefore we received information on 19 enclosures. Of those, one respondent omitted important information and four others included enclosures housing either single birds waiting to be paired or social groups. These were omitted to lessen bias. The remaining 14 were managed as single breeding pairs and used to compare data (see Table 1).

Results

Data on the 14 enclosures showed the median flight height to be 2.7m (approx. 9ft). This was used to split the study group into two: those referred to as taller >2.7 (N=7) and those referred to as shorter <2.7 (N=7). Nesting was attempted in six of the taller enclosures and six of the shorter enclosures. Chicks were produced in five of the shorter enclosures as opposed to four of the taller enclosures. In the 14 enclosures a total of eight chicks were reared to independence, four chicks in the taller enclosures and four in the shorter enclosures.

In total, from all questionnaires, 26 nests were reported, that included naturally-built nests and those built in nesting receptacles. The average height from the ground of the nests was 2.19m (approx. 7ft 2¼in). The height from the ground of the nests compared to height of the enclosures is shown in Fig. 1 and demonstrates that the taller the enclosure is, the higher the birds will nest and, given the opportunity, they can nest 8m (approx. 26ft) above the ground.

Table 1. Single paired birds.

Enclosure (N=14)	Aviary			Nesting		
	F/H1	F/H2	F/V 1	N/A	C/H	C/R
A	2.3	No	19.3	Yes	0	0
B	3	Yes	456.0	Yes	0	0
C	2	No	10.0	Yes	4	0
D	3	Yes	18.0	No	0	0
E	2.6	No	24.8	Yes	1	1
F	2	No	40.0	Yes	4	0
G	2.6	No	118.5	Yes	13	1
H	2.6	No	122.6	Yes	8	2
I	2.8	Yes	58.8	Yes	0	0
J	2.4	No	29.5	No	0	0
K	6	Yes	294.0	Yes	7	2
L	4.5	Yes	72.0	Yes	3	0
M	3	Yes	84.0	Yes	6	2
N	4.5	Yes	72.0	Yes	3	0

F/H1 flight height (m); F/H 2 flight height higher than median;

F/V flight volume (m³); NA nesting attempted;

C/H number of chicks hatched; C/R number of chicks reared.

Discussion

The survey did not take into account the height of the vegetation suitable for nesting in the enclosures and the results could be bias towards lower nests, as such sites are more easy for keepers to provide. Though the study size was small, it does appear to show that the size of the aviary has little or no affect on whether Blue-crowned Laughingthrushes will nest in it.

Breeding success

Method

Chick mortality was investigated in 17 enclosures, including those housing single pairs and social groups (see Table 2).

Results

A total of 114 chicks were recorded as having been hatched, of which only 23 were reared. There was, therefore, 79.8% chick mortality. The hatching of chicks was reported in 12 enclosures, in five of which chicks were never reared. Fifteen chicks were recorded as having died under 15 days old. The average age at which chicks died was five and a half days, with five days being recorded most often.

The study also looked into the provision of nesting receptacles, defined as artificial structures used by laughingthrushes in which to build a nest. It found that nine enclosures in which a nesting receptacle was provided, seven chicks were hatched in them and six were reared, as opposed to eight enclosures in which nesting receptacles were not provided, in which five

chicks were hatched and only one was reared.

It was found that even by removing enclosure No.4 - in which nesting receptacles were provided and 50 chicks were reported as having been hatched (believed to be wrongly included data from previous years) - to create a 50/50 split between receptacle use and non-receptacle use, 46 chicks were hatched in nesting receptacles and 18 were not.

Table 2. Investigation of chick rearing success.

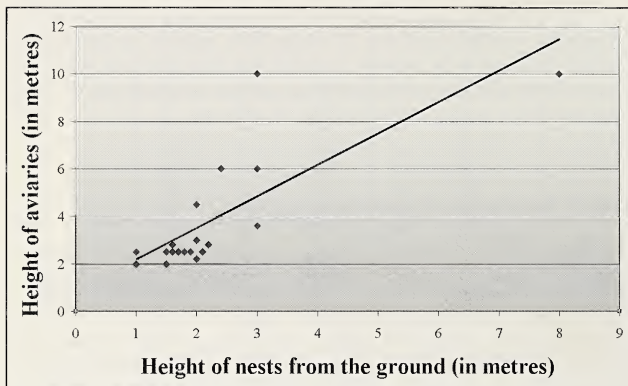
Enclosure No.	Age of chicks at death (<15days)	Chicks hatched	Chicks reared	Nesting receptacle used	No. of chicks hatched	No. of chicks reared
1		No	No	No	0	0
2		No	No	No	0	0
3	3,3,8,8	Yes	No	Yes	4	0
4		Yes	Yes	Yes	50	11
5		No	No	Yes	0	0
6		Yes	Yes	Yes	1	1
7	5,5,5.5	Yes	No	No	4	0
8		Yes	Yes	Yes	13	1
9		Yes	Yes	Yes	8	2
10		Yes	No	No	2	0
11	2	Yes	Yes	Yes	13	4
12	5	No	No	Yes	0	0
13		No	No	No	0	0
14	3,8,9,9	Yes	Yes	Yes	7	2
15	2	Yes	No	No	3	0
16	6	Yes	No	No	3	0
17	5	Yes	Yes	No	6	2
Total					114	23

Discussion

It is unclear why enclosures with nesting receptacles produce a higher number of chicks than those without them. It has though been observed by the author that one bird in a pair may be disruptive and pull apart an almost completed nest and, therefore, the provision of nesting receptacles may reduce this. The support provided by the nesting receptacle may also encourage further nesting attempts.

Unless post mortem examinations are carried out, the reasons for the high level of chick mortality will likely remain unknown. This study did not investigate the feeding regimes of adults with chicks, as these were believed to be similar in all institutions. On reflection, however, this may have produced some interesting results.

Fig. 1. Height of nests in comparison to height of aviaries.



Conclusions and recommendations

The Blue-crowned Laughingthrush will nest in enclosures of various sizes, but shows a preference for nesting at higher elevations, as its natural behaviour suggests (Yuan-hua et al. 2003). Just being housed in a large enclosure is not enough, however, and having suitable vegetation for nesting at higher elevations is required. Nesting receptacles should be provided within suitable high vegetation, giving these laughingthrushes a secure place within which to build their nest.

With the high mortality of chicks, the hand-rearing of first clutches would seem to be a sensible method of ensuring population growth at this time.

Reference

Yuan-hua, H. et al. 2003. Little-known Oriental Bird: Courtois's Laughingthrush. Available online at: <http://www.orientalbirdclub.org/publications/bullfeats/crtois.html> (accessed 01/02/07).

At the time the study was undertaken, Ian Edmans was an aviary keeper at Waddesdon Manor, near Aylesbury, Buckinghamshire HP18 OJH, UK.

THE FAWN-BREASTED WAXBILL *Estrilda paludicola*

by Simon Espley

The Fawn-breasted Waxbill *Estrilda paludicola* is a common species of the central African subtropical/tropical (lowland) wet grassland habitats. Yet it is not well-known amongst the bird keeping fraternity.



Simon Espley

Estrilda paludicola marwitz from western Tanzania.



Nest of Fawn-breasted Waxbill.

Simon Espley



Simon Espley

It is found on forest fringes and can be seen crossing tracks and clearings.

It was approximately three years ago that I first obtained a small flock of six wild-caught birds of the subspecies *E. p. marwitz*. They came from a local importer who had kept them back for his own private collection. After some persuasion, however, he agreed to sell them to me and so began a relationship with what has become my favourite waxbill. I was later lucky enough to obtain a few more wild-caught birds and with consistent breeding I now have two separate flocks.

During various birdwatching trips to Uganda I have been lucky enough to observe this species in its natural environment. There it is always found in tall reeds and grasses on forest fringes and one can generally hear the birds' contact calls and/or see them trailing one after another across tracks and clearings.

The Fawn-breasted Waxbill (sometimes called the Marsh Waxbill) is easily distinguished from the closely related Orange-cheeked Waxbill *E. melpoda*. Although field guides may suggest that the main distinguishing feature is the latter's orange cheeks, in reality the two are very different - certainly in the case of *E. p. marwitz*.

The Fawn-breasted Waxbill has a very white throat, chest and belly, whereas the Orange-cheeked Waxbill has these areas coloured various shades of grey.

E. p. marwitz has a brown crown (as does *E. p. roseicrissa*), whereas that of the Orange-cheeked Waxbill is grey. (*E. p. paludicola*, however, has a grey crown suffused with brown and *E. p. benguellensis* has a dark grey crown with little or no brown suffusion. *E. p. ochrogaster* (see below) has the top of the head "browner" and *E. p. ruthae* was not described by Goodwin (1982), as he had not seen a specimen of this subspecies.)

The back is a more reddish shade of brown than that of the Orange-cheeked Waxbill.

The beak is a deeper shade of red than that of the Orange-cheeked Waxbill.

The red on the rump is brighter than that of the Orange-cheeked Waxbill and more extensive, often extending to the vent and lower belly areas.

Both are petite waxbills, but with the Fawn-breasted slightly larger and bulkier than the Orange-cheeked species.

The two species' distributions are largely exclusive, with the Orange-cheeked Waxbill occurring farther to the west, though there is an overlap area in west central Africa.

Clements (2007) listed six subspecies (see above), which have varying



Simon Espley

Interior of one of the author's aviaries housing Fawn-breasted Waxbills.

combinations of the above attributes. Sinclair & Ryan (2003), however, treated '*ochrogaster*' as a separate species, the Abyssinian Waxbill *E. ochrogaster*.

Here in South Africa I have found the Fawn-breasted Waxbill to be a regular breeder and in this respect it is similar to the Orange-cheeked species.



Simon Espley

Estrilda paludicola marwitz has a brown crown (as does *E. p. roseicrissa*).



Simon Espley

Black-billed juvenile Fawn-breasted Waxbill.

Like the Orange-cheeked Waxbill it prefers to be in a flock, with the birds constantly calling to keep in contact with each other. The calls of the two species are similar, although those of the Fawn-breasted species are more strident and harsher than those of the Orange-cheeked Waxbill. Young Fawn-breasted Waxbills have a distinctive rattling call like a 'little machine gun.' I find the Fawn-breasted species to be more confiding and inquisitive than the Orange-cheeked species. If I hang around in their aviary, sooner or later the entire flock will come filtering through the reeds, comfort-calling to each other, flicking their tails and checking me out. When I walk pass my aviaries, the first alarm calls are generally those of the Fawn-breasted Waxbills. Another difference between the two is that the Fawn-breasted Waxbills take softfood more easily than my Orange-cheeked Waxbills. Both species readily take livefood (termites), but I have found that the Fawn-breasted species is more likely to take termites even when not breeding.

I try as far as possible to mimic their wild habitat in my aviaries. Therefore, both flocks of Fawn-breasted Waxbills are housed in large aviaries with plenty of tall grass, reeds and other cover, and spend most of their time in the reeds. Both aviaries are shared with other birds of a similar size or those that are slightly larger. It is a peaceful species that gets on well with its own kind and other species.

My aviaries are covered with 6mm x 6mm ($\frac{1}{4}$ in x $\frac{1}{4}$ in) mesh on the outside and shade netting is used for the inside walls. Walls at the sides and 12mm x 25mm ($\frac{1}{2}$ in x 1in) mesh buried under the floor provide protection against rats and other rodents. The aviaries are well insulated against the elements, with 80% of the roof covered in fibre glass or tin. They are thickly planted with reeds, grasses, herbs and weeds. The floor covering is a mix of sand, soil, stone chips and chipped bark. The drinking and bathing water is refreshed four times a day via an automatic timer and mist sprays come on twice a day during the summer.

My birds receive the following diet:

A dry seed mix of red manna, pannicum millet, white millet, Japanese millet, canary seed, niger, rape, linseed and shelled sunflower seeds.

A wild grass seed mix, consisting of very small seeds and grass chaff, supplied by local farmers.

Sprouted seeds (every second day).

Bunches of freshly picked wild seeding grasses (every second day, when available).

Moistened softfood mix, consisting of commercial softbill pellets, finch crumbs and dried eggfood, to which I add cod liver oil, wheat germ oil and Spirulina.

A shredded vegetable mix of carrot, broccoli, miniature corn and various berries (every second day).

English cucumber and papaya.

Termites (twice a day).

A mix of crushed charcoal and oystershell, to which I add baked chicken eggshells.

Calcium powder sprinkled over seed (weekly).

My austerity diet involves withholding termites and all greenfood for the three months prior to the beginning of the breeding season.

My tips for successful breeding are:

Providing privacy and protection against the elements.

Providing densely planted aviaries, using mainly reeds and tall grasses.

Not overcrowding aviaries.

Providing a variety of food options, including plenty of livefood.

References

Clements, J. F. 2007. *The Clements Checklist of the Birds of the World*, Sixth Edition. Helm, London.

Goodwin, D. 1982. *Estrildid finches of the world*. British Museum (Natural History), London.

Sinclair, I. and Ryan, P. 2003. *A comprehensive illustrated field guide Birds of Africa south of the Sahara*. Struik Publishers, Cape Town.

Simon Espley is the Director of The Rare Finch Conservation Group (website:www.rarefinch.co.za). He lives in Cape Town, South Africa and specialises in the breeding of African finches, although he also dabbles with other species. His passion is to ensure that bird keepers, scientists and those working for government agencies, combine their skills for the benefit of birds in the wild. Simon can be contacted by e-mail:simon@africageographical.com

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FOR SALE

The society has been contacted by an elderly gentleman, who has for sale bound volumes of the *Avicultural Magazine* for the years 1956-1987 and *Foreign Birds*, the Foreign Bird League magazine for the years 1956-1970. All are, he says, in first class condition. If you are interested in the first instance please contact the Hon. Editor.

THE BLUE-THROATED CONURE *Pyrrhura cruentata*

by Derek Gibson

Exmoor Zoo has had a relatively short association with the Blue-throated Conure, our first pair having been loaned to the zoo by one of our supporters in May 2002. The pair arrived with a rather chequered history of producing eggs only occasionally and never incubating them, thus never breeding. While the pair was held in one of our quarantine aviaries, it was very



Derek Gibson

Adult Blue-throated Conure at Exmoor Zoo.

noticeable that the female was a very assertive character. She was always the first to feed and always the first to investigate anything new. This seems to have been a character trait of other females we have had since then and has been so whether they have been hand-reared or not. The males have been a

little bit more hesitant and more inclined to keep their distance.

Upon completion of the quarantine period, the pair was transferred to one of our aviaries for South American birds. It measures 2.5m x 1m x 1.5m (approx. 8ft 3in x 3ft 3in x 5ft). To encourage the birds to fly the maximum distance, it has perches at either end. The birds settled in immediately, with the female announcing her arrival by trying to pick an argument with the pair of Yellow-shouldered Amazons *Amazona barbadensis* living in the next aviary. The pair was observed mating for the first time on July 2nd 2002. The female took up residence in the nest box on July 15th 2002. The first egg was seen on July 20th 2002. Eventually there was a clutch of five eggs. One was clear, one chick was dead in the shell and the remaining three hatched successfully, but one chick was later found dead on the aviary floor. The remaining two were transferred to the zoo's Incubation and Rearing Centre, where both were successfully hand-reared.



Derek Gibson

Twenty-five days old.

No further young were produced over the next couple of years. Eggs were laid at irregular intervals, but all proved to be clear. I wondered if this could have been because of the female's assertive nature. The male and female were returned to their original owner on September 3rd 2005. The two chicks from 2002 were DNA sexed and found to be a male and a female. The male was exchanged on January 28th 2004 for an unrelated male hatched on May 23rd 2003 at Paradise Park, Hayle, Cornwall.

The new pair was placed together in one of the zoo's quarantine aviaries and later transferred to the aviary that the older pair of Blue-throated Conures had occupied. Again the female was quite a fearless little thing, with the male more than happy to join in, though at wing's-length. Mating was first observed on September 29th 2005 and on October 6th three eggs were present in the nest box. These were checked on October 23rd 2005 and were unfortunately all found to be clear. No further breeding activity was noted that year or the following year, although both birds seemed well bonded.

The year 2007 started really well with six eggs in the nest box on February 10th. The female was sitting tight and the male was spending a considerable amount of time in the nest box with her, though more for company, we suspected, than to help with incubation duties. The nest box was inspected again on March 1st and two chicks were seen, both were very vocal and both had food in their crops. A third chick hatched two days later and soon caught up with the other two (the remaining three eggs were clear). It was interesting to note that the female's rather fearless disposition was only evident when the aviary was entered. Every time the nest box and youngsters were inspected from outside the main aviary, she remained in the box and watched.

All three chicks thrived. The first fledged on April 22nd 2007, the second on April 23rd and the third on April 30th. One was observed eating out of the food bowl on May 7th and was joined by its fellow nest mates over the following week. All three youngsters were removed from the aviary on June 6th and housed on their own in an off-display aviary.

The same day that the youngsters were removed, the adult pair was noted mating and from June 19th onwards the female began to spend more time in the nest box. The first egg of the pair's second clutch was laid on July 4th. When the nest box was next checked on July 15th, it contained seven eggs. These began to hatch on August 1st. When the nest box was checked on August 4th the fourth egg had hatched, followed by the fifth egg on August 6th. The remaining two eggs were clear, but were left in the nest box to help prevent the youngest chick from being squashed. Both parents were observed taking food into the nest box.

All five young were reared successfully. A male went to Twycross Zoo in Warwickshire and the other four remain here. This year, 2008, the pair which was restricted to rearing just one brood, raised five young, one of which died at the weaning stage.

More of the Exmoor-bred young will, it is planned, go to other collections, some in exchange for unrelated birds to set up new pairs here at Exmoor Zoo so that, along with other collections, we can work towards the long-term survival of this most engaging little conure.

Diet

The adults are fed at 9.00am and, if required, again at 4.00pm.

30g Parakeet mix

30g Seasonal fruits and vegetables cut into 1cm x 1cm (approx. ½in x ½in) cubes

Soaked millet sprays are offered once a week.

15g Mineralised grit is offered once a week.

When the birds are breeding they are offered (EMP) eggfood, in addition to the above mix and, when there are young in the nest, they are fed at 8.00am, 12 noon, 3.00pm and 5.30pm.

Vitamin supplements used are Avi-Mix and Abidec.

Fresh browse, either willow or beech, is placed in the aviary at least two to three times a week during the summer months.

Nest box design

Our old nest box for the conures measured 15cm x 15cm x 30cm (approx. 6in x 6in x 1ft). It was made of plywood and had a front-facing opening measuring 5cm (2in). In early 2005 a new design was adopted. It is again made of plywood and is of the same dimensions, but has a tunnel fitted to the entrance. This design seems to work well, as our breeding results indicate. The substrate we use is woodchips to a depth of 3cm (1¼in). After the young have fledged and left the nest box, the old material is removed, the box is sterilised and fresh woodchips are placed in it.

Derek Gibson is Head Keeper at Exmoor Zoo, South Stowford, Bratton Fleming, Barnstaple, Devon, UK. Website: www.exmoorzoo.co.uk/E-mail: derek.r.gibson@btinternet.com

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SOCIAL MEETINGS 2009

On Saturday, March 28th, there will be a visit to Colchester Zoo in Essex, to which members are invited and may bring guests. Following the Council Meeting, there will be the 2009 AGM followed by lunch, after which there will be a conducted tour of the collection.

The President's Garden Party will be held on the afternoon of Saturday, July 18th, at Chestnut Lodge, Cobham, Surrey.

On Saturday, September 19th, there will be a visit to Arnold Zwetsloot's waterfowl collection near Sandy, Bedfordshire.

UNPRECEDENTED USE OF A NEST LOG
BY A FEMALE GREEN BROADBILL *Calyptomena viridis*

by J. J. Elston, C. Sky, G. Quinones, C. Tybor, C. Plasse
and T. Bettinger

Introduction and background

The Green Broadbill *Calyptomena viridis*¹ is a small, frugivorous bird native to the tropical forests of south-east Asia. Both the male and female are bright green in colour, with the green of the male slightly more vibrant and with black markings on the head and wings. This species makes an eye-catching resident in zoo aviaries. Though specialising in a fruit diet, the Green Broadbill opportunistically consumes insects and parents commonly feed insects to their offspring during rearing (del Hoyo et al. 2003). In the wild the Green Broadbill constructs a round or gourd-shaped hanging nest by weaving together plant materials and typically suspends it from a tree branch over an open area (del Hoyo et al. 2003).

Few reports of successful reproduction in captivity have been documented. Two zoological institutions reported female Green Broadbills nesting in suspended artificial domed nests or constructing their own hanging nests, with variable success in producing chicks (see Lewis, 1996; Gossett & Beseke, 1997). In May 2002, Disney's Animal Kingdom, Lake Buena Vista, Florida, USA, received four Green Broadbills, two males and two females. These were housed together in an off-display aviary and given the opportunity to form their own pair bonds, after which one pair was moved to a separate, mixed species aviary that was open to the public. No breeding behaviour was observed by either pair. In May 2004, all four were reunited in an off-display, mixed species aviary, in an attempt to encourage reproductive activity. Also living in the aviary was a pair of Long-tailed Broadbills *Psarisomus dalhousiae*. March-May 2005 and again in January 2006 both females engaged in nest building behaviour, but neither completed a nest or laid eggs. The Green Broadbills were observed destroying and consuming eggs of a pair of Jambu Fruit Doves *Ptilinopus jambu* living in the same aviary. In March 2006, keepers observed aggressive behaviour directed towards one male Green Broadbill by the other male Green Broadbill and the male Long-tailed Broadbill, which consisted of both chasing and bodily contact. As a result, the recipient of the aggression and his female partner were moved to a separate aviary which housed an Indian Pygmy

¹ The name Lesser Green Broadbill seems to have faded from use, see e.g. *The Clements Checklist of the Birds of the World*, Sixth Edition (2007) - Ed.



Christy Sky

Hand-reared chick aged 18 days. It proved to be a male.

Goose *Nettapus coromandelianus*. At the edge of a pond, in an upright position on the ground was a nest log, placed there originally for Indian Pygmy Geese.

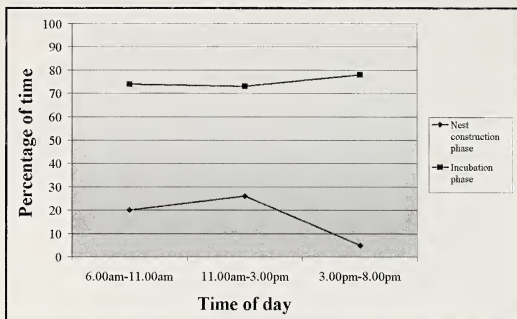
In late December 2006, the female Green Broadbill began constructing a nest inside the nest log. Keepers having observed this unusual behaviour began videotaping it. Little documentation exists regarding the reproductive behaviour of captive broadbills, in addition to which the use of a nest log by broadbills was unprecedented. Therefore, our objective was to document the nesting activity of this pair of Green Broadbills. Data from this study will we hope provide valuable information on the reproductive behaviour of the Green Broadbill and assist others in their efforts to propagate this species in captivity. In addition, this paper provides a protocol for hand-rearing Green Broadbill chicks which will we hope prove helpful to those attempting to hand-rear this species.

Materials and methods

Animals and housing

An adult pair of Green Broadbills was housed off-display at Disney's Avian Research Center in a 9m x 3m x 2m (approx. 29ft 6in x 9ft 9in x 6ft 6in) outside aviary with a single female Indian Pygmy Goose. The pair had resided together in the aviary for nine months prior to this study. The aviary

Fig. 1. Percentage of time female spent throughout the day on nest construction phase and incubation phase (period).



contained natural vegetation and perching, as well as a nest log. The latter was in a vertical position on the ground. It was 1m (approx. 3ft 3in) tall and 27cm (approx. 10½in) in diameter, with the entrance hole 9cm (3½in) in diameter, less than 1m (3ft 3in) above the ground. Pine shavings had been placed in the nest log and raffia, coconut fibres and bamboo fibres were placed in the aviary as nest building materials.

Twice daily at 8.00am and 12 noon they were provided with a diet of Mazuri parrot breeder soaked in water, Toronto Zoo Small Carnivore Diet mixed with Mazuri insectivore diet, fruit, including avocado, and crickets, mealworms and waxworms. Grapes were provided for enrichment. Pinkie mice were offered, but were discontinued because the birds showed a lack of interest in them. As the aviaries are outside, they were also able to catch insects living in the wild.

In early January 2007 the female laid a clutch of three eggs in the nest log. It was the first clutch of eggs the female had ever produced. The eggs were laid at two day intervals. Eight days after the first egg was laid and four days after the last egg was laid, keepers removed the eggs and placed them in an incubator. The decision was taken to artificially incubate the eggs and hand-rear the chicks as, even though the female consistently entered the nest log and incubated the eggs, she occasionally sat on the opposite side to the eggs, which resulted in them being left all or partly uncovered. They were replaced with three artificial eggs to encourage the female to continue her incubation behaviour. Therefore, the behavioural data collected during the remainder of the incubation process, applies to the artificial eggs, which replaced the original eggs in the nest log.

Data collection

A video camera was positioned to focus on the outside of the nest log and a bullet camera was inserted inside the nest log. Video recordings were made between 6.00am and 8.00pm (06.00hrs – 20.00hrs) daily using a VCR. Video recording began when nest construction was first observed and ended when the artificial eggs were removed from the log by keepers after the chicks hatched in the incubator. Tapes were scored for all visits to the nest log (behavioural sampling: Martin & Bateson, 1993), along with the time and length of each visit. Data was recorded over 32 days, with an average of 10 hours recorded per day, for a total of 322.56 hours.

Hand-rearing protocol

The eggs were incubated for 19 days in a Grumbach incubator set at 100.4°F (37.8°C) with approximately 58% humidity. They were turned by keepers four times per day. Upon hatching the chicks were placed in a brooder. The brooder room was kept dark, except during feeding. The hatchlings were kept in a small cup approximately 8cm x 8cm x 6cm (3¼in x 3¼in x 2¼in) with tissue for bedding and cover on days one and two. They were moved to a larger cup approximately 15cm x 15cm x 4cm (6in x 6in x 1½in) on day three and wood wool was used for bedding. The brooder temperature was 96°F (35.5°C) on days one and two, and was decreased by 1°F every two days during the rearing period. Humidity was maintained at 80%-82% from day one to day 11 and was reduced to 40% on day 12 and remained at that level for the remainder of the rearing period. The humidity level was achieved by placing wet towels on the floor of the brooder and by misting the brooder with water.

As only one of the chicks survived (see Results), the following information on the rearing diet and feeding schedule is based on the protocol established for the surviving chick only. Food was offered to the chick every two hours from 6.00am-6.00pm (06.00hrs -18.00hrs), i.e. seven times per day, during the first 10 days after hatching. During the first two days, the chick was offered various items, including chopped pinkie mice, Purina cat chow, two-week old crickets or large cricket abdomens, waxworm pieces, papaya and grapes. Food items were soaked in Pedialyte. As a guideline, keepers attempted to feed the chick 45%-65% of its body weight during each feeding (on a wet matter basis). However, it was more or less dependent on how hungry or not the chick was. In addition, it received a vitamin B supplement (one drop per 5g of body weight) once per day. The chick began to pass loose faeces on day four and, as a result, on day five was fed only chopped pinkie mouse soaked Pedialyte. On day six, Mazuri parrot breeder was added to the diet. By day 10 the chick's faeces had returned to normal and its feeds were reduced to five per day (one every three hours). Avocado

Fig. 2. Growth rate of two hand-reared chicks.

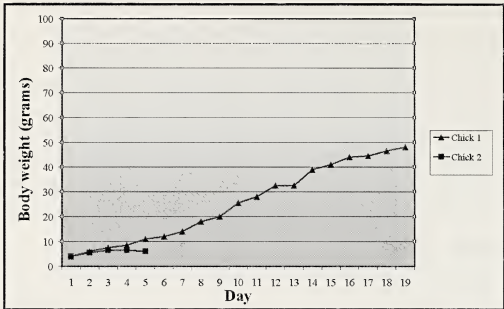
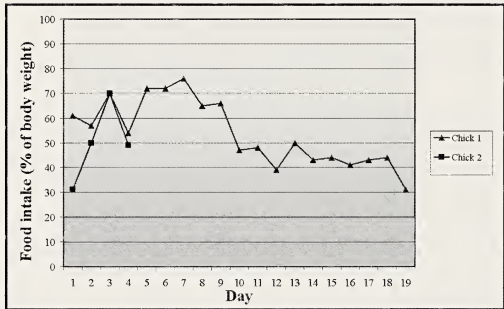


Fig. 3. Food intake (on a wet matter basis) as a percentage of body weight of two hand-reared chicks (all weights were in grams).



was added to the diet on day 11 and on subsequent days grapes and papaya were included. On day 19 the chick was moved to a cage measuring 51cm x 51cm x 51cm (approx. 1ft 8in x 1ft 8in x 1ft 8in) with perches. Food was provided four times per day. Feather analysis was used to determine that the young broadbill was a male.

Results

Adult behaviour

Only the female engaged in nest construction. She weaved together a nest inside the nest log and completed it in approximately nine days. During the nest construction phase, the female spent an average of 18.91% of her time on nest construction during the day and visited the nest log an average

of 9.71 times per hour. Visits to the nest log occurred throughout the day, though primarily in the morning and early afternoon, and less often in the late afternoon and evening.

During the incubation phase, only the female entered the nest log and engaged in incubation behaviour. After the female had laid her first egg, she spent an average of 44.90% of her time inside the nest log each day until she had produced her entire clutch, after which this increased to an average of 88.79% of her time each day. The female incubated the eggs throughout the day (see Fig.1). While the female was inside the nest log, the male was observed chasing the Indian Pygmy Goose, when it landed on the top of the nest log.

Egg and chick data

The eggs (N=3) were white with a small number of dark brown spots. The mean length and width were 27.5mm x 20.3mm and the mean weight was 5.92g. Candling revealed that two of the eggs were fertile and one was infertile. Two chicks hatched after the eggs had been in the incubator for 19 days. The first chick to hatch (chick 1) grew steadily throughout the rearing period (see Fig.2). It consumed a variable percentage of its body weight in food per day and its weight increased unsteadily until day seven, followed by a unsteady decline (see Fig.3). The second chick to hatch (chick 2) began to produce loose faeces on day two and, as a result, fruit was removed from its diet. During the first two days of its life, chick 2 had appeared to be following a similar pattern to that of chick 1 with regard to its food intake as a percent of its body weight per day. However, between days three and four it lost 10% of its body weight and on day five died from a bacterial infection.

On day four a feather tract was visible on the back of chick 1 and by day five pin-feathers covered its body. The chick's eyes began to open on day six. By day 16 the chick began to become selective about its food and began to refuse the parrot pellets. On day 17 the chick began making adult-like vocalisations and by day 18 was fully feathered (see photo p.173). The chick fledged, i.e. left the artificial nest cup on its own, aged 19 days. By the time it was aged 32 days, the chick was consuming food on its own and was moved to a 1.5m x 3m x 2m (approx. 5ft x 9ft 9in x 6ft 6in) outside aviary. Feather sexing revealed it was a male.

Discussion and conclusions

The male Green Broadbill did not assist the female with nest construction or incubation, which is similar to the behaviour reported for the male Green Broadbills at San Diego Zoo (Lewis, 1996) and Lincoln Park Zoo (Gossett & Beseke, 1997). The male did, however, appear to engage in nest protection when the female was in the nest; as indicated by his chasing away the pygmy

goose when she landed on the nest log. Guarding behaviour by the male Green Broadbill when his female partner occupied the nest was also observed at Lincoln Park Zoo (Gossett & Beseke, 1997).

In the wild, Green Broadbills reportedly replace lost clutches during the breeding season (del Hoyo, 2003). Long-tailed Broadbills at Disney's Animal Kingdom have been observed to lay replacement clutches (re-clutch) several times during a breeding season (Elston unpublished data) and a pair of Green Broadbills reportedly produced three clutches during a breeding season at San Diego Zoo (Lewis, 1996). In 2007, a pair of Green Broadbills laid several replacement clutches and produced five chicks (Webster (Toledo Zoo) pers. comm.). However, the female Green Broadbill in this study did not re-lay after the artificial eggs were removed from the nest log. Gossett and Beseke (1997) also reported that the pair at Lincoln Park Zoo produced only one clutch during the breeding season. The second pair of Green Broadbills housed off-display at Disney's Animal Kingdom has failed to produce a clutch during the past four years. Failure to be able to rely on Green Broadbills to produce a clutch of eggs and subsequently lay again during a breeding season illustrates two of the complications when trying to breed this species in captivity and emphasizes the importance of maximizing chick survival when offspring are produced.

During this study the eggs were removed from the nest because the female failed to consistently sit on all three of them. It is possible that the nest she constructed inside the log was too big. In the wild, Green Broadbill nests are small and generally the female sits inside with her head outside of the nest (del Hoyo, 2003). Therefore, should such a situation arise again, it may be necessary for keepers to manipulate the nest after it has been constructed to ensure that it is smaller, so that the female's body fills the nest and she covers all of the eggs. However, her failure to cover all of the eggs may have been due to parental inexperience, given that it was the female's first clutch.

Both chicks passed loose faeces early in the hand-rearing period and, although the ultimate cause remains unknown, a slight modification to the diet appeared to reduce the problem in chick 1. Although adult Green Broadbills are frugivorous, the young may depend less on fruit and more on high quality, easily digestible protein rich foods, during early growth and development, however, this hypothesis remains to be tested.

The female Green Broadbill in this study behaved in an atypical manner by nesting in a standing nest log, rather than using a suspended nest. Perhaps seclusion is a desirable nesting component for Green Broadbills in captivity and the nest log provided that element. Efforts to increase privacy and promote a 'sense of security' may be important steps towards encouraging reproduction by Green Broadbills.

Acknowledgements

This study was a joint effort by the Aviary Team and the Animal Research and Technology Team at Disney's Animal Kingdom. We wish to thank Paul Schutz and Robert Webster for developing the hand-rearing protocol and Kevin Graham and Susan Nelle for assistance with chick rearing. Thanks are also extended to Sue DuBois for video equipment support and Heather Pollard for project assistance. Christy Sky took the photo.

Products mentioned in the text

Brooder: Animal Intensive Care Unit, Lyon Electric Company, Inc., Chula Vista, California, USA.

Feather analysis/tissue sexing: Avian Biotech International, Tallahassee, Florida, USA.

Grumbach Incubator: Swan Creek Supply, Inc., Saginaw, Michigan, USA.

Mazuri parrot breeder: PMI Nutrition International, St Louis, Missouri, USA.

Mazuri insectivore diet: PMI Nutrition International, St Louis, Missouri, USA.

Pedialyte: Abbott Laboratories, Abbott Park, Illinois, USA.

Purina cat chow: Nestlé Purina Pet Care Company, St Louis, Missouri, USA.

Toronto Zoo Small Carnivore Diet: Milliken Meat Products Ltd., Scarborough, Ontario, Canada.

Vitamin B: Quicko Daily V, Sun Seed Company, Inc., Bowling Green, Ohio, USA.

References

- del Hoyo, J., Elliot, A. and Christie, D. (eds.). 2003. Family Eurylaimidae (Broadbills). In: *Handbook of the Birds of the World* Vol.8. Broadbills to Tapaculos. Lynx Edicions, Barcelona, Spain.
- Gosset, J. and Beseke, C. 1997. Breeding Lesser Green Broadbills at Lincoln Park Zoo. *Avicultural Magazine* 103,1:15-19.
- Lewis, E¹. 1996. Captive Breeding of the Lesser Green Broadbill. *Avicultural Magazine* 102,1:1-5.
- Martin, P. and Bateson, P. 1993. *Measuring behaviour: an introductory guide*. Second edition. Cambridge University Press, New York, NY, USA.

¹ The correct name of the author is Ed Lewins, but due to an error somewhere along the line, it appeared in the magazine as Ed Lewis.

The unprecedented use of a nest log by a female Green Broadbill (described above) occurred at Disney's Animal Kingdom, PO Box 10000, Lake Buena Vista, Florida 32830, USA. Contact: Chelle Plasse, Assistant Curator of Birds. Tel: (+1) 407 939-7339/E-mail: Chelle.Plasse@disney.com. At the time of the study Jennifer J Elston, PhD, was a Research Fellow at DAK. Jennifer Elston is currently Curator of Conservation and Behavior, Fort Worth Zoo, 1989 Colonial Parkway, Fort Worth, Texas 76110, USA. Tel: (+1) 817 759-7315/Fax: (+1) 817 759-7501/E-mail: jelston@fortworthzoo.org

REVIEWS

GUIDE TO PARAKEETS OF THE GENERA

Neophema AND *Neopsephotus* AND THEIR MUTATIONS

I have a vivid memory of seeing a pair of Splendid Grass Parakeets (Scarlet-chested Parrots) at the National Exhibition of Cage Birds at Olympia in London in the early 1950s. Rather than being placed amongst the general show exhibits they were still considered to be so rare and delicate as to need extra protection and security and were displayed in a decorated, glass-fronted cabinet, with its own lighting and the cabinet was set into the wall. From these fragile beginnings here in the UK, the species eventually became a common sight, even in the aviaries and birdrooms of novice breeders. The Splendid Grass Parakeet was once considered extinct in the wild and this – together with its association in the 1930s-1940s with King George V, the Duke of Bedford and then Keston Foreign Bird Farm - gave the bird its special aura amongst parakeet breeders in the 1950s and 1960s. Their efforts to breed more and more of these delightful birds, resulting in a massive increase in the aviary population around the world, is one reason for the eruption of the number of colour varieties now in existence.

The species which present the greatest number of colour varieties are the Splendid Grass Parakeet and the Turquoise, the two which were considered most rare and desirable around 50 years ago. There is no denying that these colour varieties are nothing less than spectacular - especially now the violet factor is being brought into the picture. No less attractive are the carmine, pink, cream, fawn, blue and white shades presented in the series of colour varieties of Bourke's Parakeet. Also included are the Elegant and its predominantly yellowish varieties, the Blue-winged with its attractive blue mutation, the aviculturally rare Rock Parakeet and the Endangered Orange-bellied species.

Skilful colour photography is used to show all the existing colour varieties to their greatest advantage and in the finest detail. The photos are invaluable for clear identification and might be considered the most important feature of *A Guide to... Neophema & Neopsephotus Genera & their Mutations*, which covers all aspects of keeping these popular little birds. General management, housing, feeding, disease, explanation of plumage pigments and information on the genetics of the varieties are all included in a compact format.

Considering its otherwise comprehensive coverage of the subject, there do appear to be some omissions to the sections on inheritance of the colour varieties. Though I could find reference to the existence of several mutations of genes occurring at the same locus, which are described as alleles, I could find no examples of pairings showing the expectations when allelomorphs

are cross-bred. It would have been useful to have explained the effects of cross-breeding the three main types of blue Splendid Grass Parakeet, which are presumed to be alleles. Explaining the theory behind cross-breeding where alleles are concerned (as simply as possible) would have also explained the reasons why there are examples which are partway between these bluish phases. In this case the blue to green-blue colour is caused by factors which result in either a lessening or a complete loss of yellow and red pigments in the plumage. Likewise, it could be surmised that there might also be alleles among those varieties of grass parakeets which lessen or negate melanin pigment (as for example with the Peach-faced Lovebird).

Dismissing this minor technical criticism on my part, ABK Publications is to be congratulated on publishing this English language revised edition of Dr Alain Campagne's French title *Les Euphemes*, which provides a visual treat for grass parakeet enthusiasts. Dr Terry Martin BVSc (author of *A Guide to... Colour Genetics and Mutations in Parrots* also published by ABK) acted as a consultant and adviser for the sections on genetics and colour varieties and Dr Bob Doneley BVSc FACVSc provided the excellent section on health and disease, which includes a very helpful set of charts showing symptoms of illnesses and detrimental conditions and their possible causes.

A Guide to... Neophema & Neopsephotus Genera & their Mutations by Dr Alain Campagne MD, English Revised Edition translated by Christine Leah, is bound to stimulate an even greater interest in grass parakeets. It has 224 pages and 300 photos and is published by ABK Publications, PO Box 6288, Tweed Heads South, NSW 2486, Australia. Soft cover (ISBN 978 0 98049224 1 5) Australian \$60.00, hard cover (ISBN 978 0 98049224 0 8) Australian \$70.00.

Jim Hayward

WHERE TO WATCH BIRDS IN SPAIN

This updated second edition of *Where to Watch Birds Northern & Eastern Spain* by Michael Rebane and Ernest Garcia covers all of Spain except for Extremadura, Andalucia and Gibraltar (which are covered in a complementary volume in this popular series). The guide which is the subject of this review covers a huge geographic area and provides details of a total of 112 major sites and short notes on a further 75 sites.

The introductory chapter on visiting northern and eastern Spain includes useful tips on planning a birding trip and includes areas most easily accessible from the main tourist centres of Barcelona and Madrid. A section on internet sites available to help with planning birding trips is also useful. The main hazards, including fighting bulls, dogs, pickpockets and traffic police, also get mentioned.

For each site a map is provided that shows general site details, but gives no visual indications of the best areas for target species. For information on the best locations for individual species one needs to consult the text. This however is pretty comprehensive and gives the conservation status of the site, that is whether it is a National Park or Protected Area, plus a comprehensive site description - covering geography and habitat. The species sections contain valuable information on the birds and for some of the sites also the mammals.

As noted by Richard Meyer in his recent review of *Where to Watch Birds in Wales* (Vol.114, No.2, pp.92-93 (2008)), a frustration of this format is that if you are planning a birding trip and are especially interested in seeing a particular species, the only way to find that information is to use the species index and work through an often large list of site accounts that include the particular species. At many of these sites the sought after species may be rarely encountered or be quite unlikely to be seen. It would have been really helpful and more user-friendly to have had an extra chapter that focused on the more sought after species and indicated the best sites and times of the year and the day to seek them. This information is included in the guide - it is just not that easy to find.

However, this minor point aside, this updated guide is very well written and unless one is very familiar with the country and its changing landscapes, is absolutely essential for anyone planning a birding trip to Spain and, at £16.99, is excellent value for money. Additional details may be gathered from various internet sites and trip reports, but I would not want to plan a trip without this guide and would expect to frequently refer to it during a trip. I look forward to being able to put it to the test in the field on my next trip to Spain.

Where to Watch Birds Northern & Eastern Spain, Second Edition, by Michael Rebane and Ernest Garcia (ISBN 978-0-7136-8315-8), paperback, 367 pages, with numerous maps and black and white illustrations is published by Christopher Helm, an imprint of A&C Black (website:www.acblack.com). It is distributed by MDL: Tel.01256 302699.

Roger Wilkinson

THE Rcom 20 DIGITAL INCUBATOR

This year was the first time I used a Rcom 20 digital incubator here at Paignton Zoo Environmental Park, having first noticed these incubators being used to hatch eggs of Griffon Vultures *Gyps fulvus* at Jerusalem Zoo, where this species is being raised for release into the wild.

The Rcom 20 was delivered ready for use. It measures 50cm x 35cm

x 14cm high (approx. 1ft 8in x 1ft 2in x 6in high) and was preset at the factory to run at 37.5°C (99.5°F) with the humidity set at 55%. Changing the settings is fairly straightforward. The 15-page booklet that comes with it is very informative and generally easy to follow. Although the English translation was not always clear to me, the workings of each section are amply explained through the use of diagrams. The Rcom 20 has the capacity to hold approximately 20 chicken eggs, 52 quail eggs or 10 turkey eggs.

Other than the need to add water each day, pretty much everything else about this incubator is automatic. The eggs are turned every hour and the temperature and humidity are controlled digitally. My overall impression is that it is a well made, good quality incubator, that looks professional and is a welcome addition to the incubator room.

The viewing panel on the top provides a clear view of all the eggs and also serves as the lid to the incubator. A few seconds after it is removed, the machine switches off automatically and starts up again automatically when the lid is placed back on. I have found this very useful, as I have lost count of the number of times I have double checked the on/off switches on other incubators. Several partitions are supplied to hold the eggs firmly in place and allow several different sizes of eggs to be incubated at the same time, making it an ideal machine for the small-scale hobbyist or the keeper of a large mixed collection. It is compact enough to easily be moved from one site to another.

At the onset of 2008, having run a trial using an assortment of poultry eggs, we went on to use the Rcom 20 to incubate the eggs of several important species, including Argus Pheasant *Argusianus a. argus*, Grey-winged Trumpeter *Psophia crepitans*, Lapwing *Vanellus vanellus* and Abyssinian Ground Hornbill *Bucorvus abyssinicus*. I have not used the Rcom 20 as a hatcher yet. However, I can see no reason why it should not prove to be a good hatcher. It holds the humidity well and, I believe, that the floor has a non-slip surface. The machine is also easy to dismantle and clean.

During the course of the 2008 breeding season, I found it to be a very good incubator. There is just one thing I found that needs to be watched, that is the narrow plastic tube that carries the water from the reservoir to the evaporation sponge. The tube easily gets blocked with debris if you do not keep the reservoir clean. For this reason it is important to use only distilled water.

The Rcom 20 digital incubator is made in Korea by Auto Elex Co. Ltd (website: www.autoelex.com). At the time of writing (August 2008) it is available from various distributors in the UK. Price approximately £240 including VAT.

Jo Gregson

NEWS & VIEWS

EARLY SUCCESS

At least two young Kuhl's or Rimatara Lories *Vini kuhli* have fledged on Atiu in the Cook Islands, a matter of months after 27 of these birds were translocated there from Rimatara in French Polynesia (see News & Views Vol.113, No.3, p.140 (2007)). The first youngster to emerge was attacked by Common Mynahs *Acridotheres tristis* (an introduced species), but survived the attacks and two days later was joined by a second youngster. The behaviour of a second pair suggested that the pair had young in the nest.

In August 2008, several biologists from San Diego Zoo and the Cook Islands Natural Heritage Trust returned to Atiu to document these nests and Alan Lieberman and Gerald McCormack's account, together with several colour photos of adults and young, can be found in *PsittaScene*, the magazine of the World Parrot Trust, November 2008, pp.8-11. The project is indebted to several organisations and individuals, including the British Birdwatching Fair, BirdLife International, San Diego Zoo, Loro Parque, the World Parrot Trust and American Lory Society.

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SEEN THROUGH AMERICAN EYES

It has been fascinating to read Josef Lindholm's account of the visit he and his wife, Natalie, made to nine German zoological collections in April and May 2008. Josef reckons he saw well over 800 species and subspecies, perhaps closer to a thousand, of which at least 110 he had never before seen in captivity.

At Cologne Zoo he saw his first Rose-coloured Starlings *Sturnus roseus* (a species once common in European aviaries and one that occasionally turns up in gardens and on bird tables here in the UK) and Ringed Plovers *Charadrius hiaticula*. He also saw hill mynahs *Gracula* sp. which have, he wrote, now become a rarity in the USA, and the Vietnamese Pheasant *Lophura hathinensis*, which is not represented in any of the public collections in the USA.

Sharing the vast walk-through area with Rodrigues Fruit Bats *Pteropus rodricensis* in Cologne's Regenwald (rainforest) building, a tropical house housing birds, but primarily mammals, reptiles and other creatures from the rainforests of south-east Asia, Josef saw several species which had bred there the previous year: Roulroul Partridges *Rollulus rouloul*, Scheepmaker's or Southern Crowned Pigeons *Goura scheepmakeri sclateri*, Beautiful and Superb Fruit Doves *Ptilinopus pulchellus* & *P. superbis*, Purple-naped Lories *Lorius domicellus*, Bali Starlings *Leucopsar rothschildi*, Fairy Bluebirds *Irena puella* and Red-whiskered Bulbuls *Pycnonotus jocosus*.

A pair of Great Hornbills *Buceros bicornis* occupy an enormous aviary in the building and other aviaries house birds such as Renauld's Ground-Cuckoos *Carpococcyx renaudi*, Palm Cockatoos *Probosciger aterrimus* and Fawn-breasted Bowerbirds *Chlamydera cerviniventris*. Curator of Birds Bernd Marcordes, formerly at Walsrode, took Josef on a tour of the off-exhibit aviaries, whose residents included White-rumped Shamas *Copsychus malabarica*, Red-tailed Laughingthrushes *Garrulax milnei*, the Blue-crowned species *Dryonastes courtoisi* and, from Walsrode, Blue Couas *Coua caerulea* and Madagascar Blue Pigeons *Alectroenas madagascariensis*.

Josef was greatly impressed by a series of outdoor aviaries housing a variety of species. Two of them especially stand out in his memory, one housing a pair of Siberian Cranes *Grus leucogeranus*, Northern Lapwings *Vanellus vanellus* and European Rollers *Coracias garrulus* and the other a colony of Ruffs (and Reeves) *Philomachus pugnax*, together with a flock of Avocets *Recurvirostra avosetta*, a breeding flock of Common Terns *Sterna hirundo* and the Ringed Plovers and Rose-coloured Starlings mentioned earlier. The six Ruffs in full breeding plumage were a "brehtaking" sight, wrote Josef. Other inhabitants of the series of aviaries include Magpie Shrikes *Corvinella melanoleuca*, Socorro Doves *Zenaida graysoni*, breeding White-fronted Bee-eaters *Merops bullockoides* (see Vol.103, No.11 pp.20-27 (1997)), Bearded Barbets *Lybius dubius*, Madagascar Fodies *Foudia madagascariensis*, Madagascar Crested Ibis *Lobhotibis cristata*, Crested Couas *C. cristata*, a big flock of Scarlet Ibis *Eudocimus ruber*, breeding White-backed Australian Magpies *Gymnorhina tibicen hypoleuca* and Yellow-rumped Caciques *Cacicus cela*, and a breeding pair of Goliath Herons *Ardea goliath*. Also housed in these aviaries are Boat-billed Herons *Cochlearius cochlearius*, Hammerkops *Scopus umbretta*, Great Curassows *Crax rubra*, breeding Congo Peafowl *Afropavo congenesis* and Swift Parrots *Lathamus discolor* (an Australian species which has never been abundant in US aviculture). Josef was disappointed not to see the Channel-billed Cuckoos *Scythrops novaehollandiae* and had to wait until they visited Berlin, to see this strange bird.

Cologne Zoo has a large collection of waterbirds, with Magellanic Flightless Steamer Ducks *Tachyeres pteneres*, Orinoco Geese *Neochen jubata* and White-winged Wood Ducks *Cairina scutulata*, among the 61 taxa of ducks, geese and swans. Marabous *Leptoptilos crumeniferus* have produced several young, as have Eastern or Great White Pelicans *Pelicanus onocrotalus*. The zoo has flocks of the three larger flamingos *Phoenicopterus* spp., but plans to eventually concentrate on the Caribbean species *P. ruber*, of which it presently has nearly 60 - most of them males. Seven Humboldt Penguins *Spheniscus humboldti* were hatched in 2007 and, for the first

time, the zoo's small colony of Little Penguins *Eudyptula minor* produced a chick.

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NEWS FROM A MALAYSIAN ZOO

Chris Brack in Germany has managed to obtain a copy of the *Annual Report* for 2007 of Zoo Negara, Kuala Lumpur, Malaysia. While admittedly perhaps a little out of date now, it nevertheless makes interesting reading. Zoo Negara has well over 300 Painted Storks *Mycteria leucocephala* and, of the 16 species of birds bred there in 2007, not surprisingly perhaps, the Painted Storks were the most prolific. Other species which bred there in 2007 included Milky Stork *M. cinerea*, Argus Pheasant *Argusianus argus*, Malayan Peacock-Pheasant *Polyplectron malacense*, Mountain Peacock-Pheasant *P. inopinatum*, Crestless Fireback Pheasant *Lophura erythrophthalma* and White or Umbrella Cockatoo *Cacatua alba*.

The zoo exhibits several species of hornbill. Nine are listed in the census: Oriental Pied *Anthracoceros albirostris*, Black *A. malayanus*, Wrinkled *Aceros corrugatus*, Wreathed *A. undulatus*, White-crested *Berenicornis cometus*, Bushy-crested *Anorrhinus galeritus*, Great *Buceros bicornis*, Rhinoceros *B. rhinoceros* and African Southern Ground Hornbill *Bucorvus leadbeateri*. Most of the birds exhibited are from the region, but there are also a few other African species including a male White-bellied Go-away Bird *Corythaixoides leucogaster*, a Grey Parrot *Psittacus erithacus* and lovebirds *Agapornis* spp. as well as, from Central and South America, three species of macaw *Ara* spp., etc.

As part of its conservation work, Zoo Negara has released captive-bred Milky Storks - a rare species vulnerable to global extinction - in Kuala Selangor Nature Park and at Kuala Gula, Perak. Further releases were planned for 2008.

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SUPPORTING PARROTS AROUND THE WORLD

At the Annual Board Meeting of Loro Parque Fundación (LPF), the Scientific Advisory Committee allocated a record sum of €840,000 (approx. £770,600 or US\$1,095,000) to support parrot conservation around the world in 2009. The money will be used primarily to help those parrot species in the most urgent need. The LPF lists the Yellow-eared Parrot *Ognorhynchus icterotis*, Lear's Macaw *Anodorhynchus leari* and the Philippine or Red-vented Cockatoo *Cacatua haematuropygia* amongst the species whose populations have been helped along the road to recovery, thanks to its determined support.

At the two-day meeting, LPF President Wolfgang Kessler, officially opened the fundación's new Spix's Macaw Breeding Centre, which increases its potential capacity for breeding this rare macaw. Although at present the LPF has only six Spix's Macaws, it means it now has eight large interconnecting aviaries able to accommodate eight separate pairs or capable of being opened up to create one or more larger flights. The areas between the aviaries have been planted and safety precautions, including cameras and a manned guardhouse, have been installed.

At the beginning of November, Curator Dr Matthias Reinschmidt and Inge Feier, represented LPF at a large exhibition in Chemnitz, Germany, where the LPF stand attracted an enormous audience. Dr Reinschmidt gave three presentations on the work of LPF in the wild and at Loro Parque, Tenerife. The exhibition provided an excellent opportunity for LPF to establish direct contact with private breeders, who zoological collections are increasingly coming to realise, have an important role to play in conservation breeding programmes.

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INTO DOUBLE FIGURES

In their Christmas card, Josef and Natalie Lindholm, listed 10 taxa of ramphastids bred during 2008 at the Dallas World Aquarium in Texas. They were: Toco Toucan *Ramphastos toco*, Saffron Toucanet *Bailloni bailloni*, Blue-throated Emerald Toucanet *Aulacorynchus prasinus caeruleogularis* (possibly a world first captive-breeding), Crimson-rumped Toucanet *A. haematopygus*, Guianan Toucanet *Selenidera culik*, Green Aracari *Pteroglossus viridis*, Chestnut-eared *P. castanotis*, Curl-crested *P. beauharnaesii*, Pale-mandibled *P. torquatus erythropygius* and Ivory-billed Aracari *P. azaraflavirostris*. One pair of Pale-mandibled Aracaris produced three broods of chicks and three other pairs of the same species each hatched two broods.

It has also been extraordinarily successful breeding Andean Cocks-of-the-Rock *Rupicola peruvianus* - its thirteenth and fourteenth chicks were hatched in November. Jane Cooper, in California, learned from Josef that seven Andean Cocks-of-the-Rock were raised this year and one Guianan Cock-of-the-Rock *R. rupicola*.

Two Ornate Hawk-Eagles *Spizaetus ornatus* were bred, as well as Little Tinamous *Crypturellus soui* and Chiriqui Quail-Doves *Geotrygon chiriquensis*. Josef confirmed that they have two subspecies of Ivory-billed Aracari, *P. a. flavirostris* and *P. a. mariae*, the latter bred by Jerry Jennings in California. This subspecies has not yet bred at the Dallas World Aquarium.

OBITUARY

IAN HINZE

Ian became unwell on the evening of his 55th birthday, Thursday, December 18th, and was hospitalised later that evening. He was suffering from pneumonia, a complication arising from his treatment for lymphoma (cancer of the lymph nodes), which had undermined his immune system. He passed away two days later at 8.00am on Saturday, December 20th, Rene Schrader learned from Ian's wife Claire. Rene had never met Ian personally, he and Ian had got in contact with each other following the death earlier in 2008 of their mutual friend Derek Goodwin. All shared a passion for waxbills, so had "a lot to say to each other," wrote Rene.

When preparing Ian's article on the Red Avadavat for inclusion in this issue (pp.145-156), I sent four or five e-mails to him asking him to clarify minor points and referred to the introduction of the Red Avadavat to Sabah and, each time, got a prompt response from him. So, imagine my shock, when on the afternoon of Saturday, December 20th, the Hon. Secretary/Treasurer Paul Boulden phoned to ask if I had heard that Ian had died? An hour or so later, when checking my e-mails, I was further shocked to discover that I had a unread e-mail from Ian, which must have been sent on the day he became unwell or the day before. In none of his e-mails did Ian mention his health problems and was obviously looking forward to 2009 when, he hoped, his waxbill book, which he had been working on for several years, would finally be published.

Ian was a prolific author, whose articles appeared regularly in such publications as *Cage & Aviary Birds* and *Australian Aviculture* and was also, I gather, a frequent contributor to website forums. He wrote mostly about waxbills and related species of the family Estrildidae, though recently in *Cage & Aviary Birds*, Ian wrote about how in the 1980s, which he called a "glorious decade for birdkeepers," his collection had included White-rumped Shamas, Magpie Robins, Rufous-bellied Niltavas and Japanese Blue-and-white Flycatchers and how, when Fairy Bluebirds became available, he "just had to acquire some."

Ian was the first person in the UK (and perhaps anywhere else) to breed the Mali or Kulikoro Firefinch *Lagonsticta virata*, for which he received the society's first breeding medal, of which he was extremely proud (see Breeding the Mali or Kulikoro Firefinch *Lagonsticta virata*, Vol.107, No.1, pp.27-34 (2001)).

Malcolm Ellis

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WADERS IN AVICULTURE A SURVEY

Waders, members of the suborder Charadrii, are a diverse group of birds. They vary in their physical form; have a wide geographical distribution and a range of breeding and feeding habitats. They seem to indulge in almost every avian reproductive strategy recorded and have amazing physiological adaptations that enable them to feature in the record books for their migratory skills. They are often long-lived and, in general, reasonably sized birds that frequently congregate in open areas making them easy to observe; as a result they have been studied more than any other group of birds.

The body of ornithological and general scientific knowledge available on free-living waders is vast. It is surprising, therefore, that the avicultural literature contains very little information regarding the captive management - accommodation needs, nutritional requirements, breeding, health and disease - of these birds.

Despite the lack of published information, I am sure that there is a large reservoir of knowledge within the avicultural community that once collected and collated will help establish good husbandry guidelines for maintaining those birds that are currently under captive management and for any species which as time progresses, is unfortunate enough to require *ex situ* help in its conservation.

I would like to ask those aviculturists who keep or have kept waders in their collections to help with this research project and share their knowledge by completing a questionnaire. This can be done online or by hard copy. Please take part and visit:

www.wadersurvey.com
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Brian Stockdale, who is a practising avian vet and visiting lecturer at Nottingham University and has been a member of the Avicultural Society for more than 25 years, hopes to publish the results of the survey in a future issue of the *Avicultural Magazine*.



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